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Cooperative Economic Insect Report

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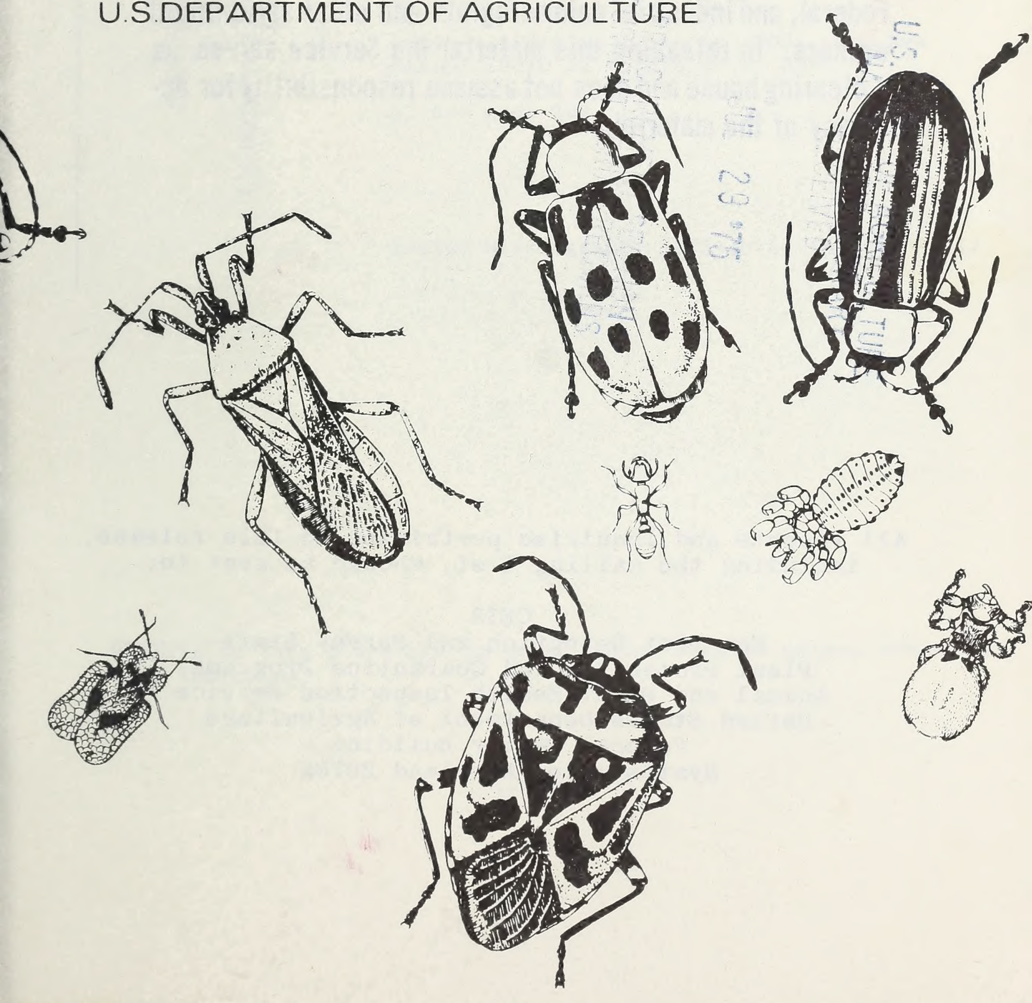

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 25 June 20, 1975 Number 25

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

EUROPEAN CORN BORER feeding on corn increasing. (p. 504).

BOLL WEEVIL punctured up to 80 percent of cotton squares in Blackland area of Texas. (p. 506).

LINDEN LOOPER defoliated hardwood trees in Pennsylvania. (p. 511).

Detection

New State records include an APHID in Idaho (p. 505) and New Mexico (p. 507) and SHALLOT APHID in Virginia (p. 509).

For new county records, see page 522.

Special Report

Citrus Blackfly. A Selected Bibliography 1913-1975. (pp. 525-531).

Reports in this issue are for week ending June 13 unless otherwise indicated.

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NATIONAL WEATHER SERVICE 30-DAY OUTLOOK

MID-JUNE TO MID-JULY 1975

The National Weather Service's 30-day outlook for mid-June to mid-July is for temperatures to average below seasonal normals from the middle Mississippi Valley to the middle Atlantic coast and southern New England. Above normal temperatures are indicated for the gulf coast and from the Rocky Mountains to the west coast except for near to below normal along the immediate west coast. In unspecified areas near normal temperatures are in prospect. Rainfall is expected to exceed the median amount over the eastern half of the Nation except for the gulf and South Atlantic coastal areas. Greater than median rainfall is also indicated for the southern Plateau and the north Pacific coast. Elsewhere less than the median amount is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - KANSAS - Decreasing statewide. Parasitism by braconid wasps heavy in Russell, Barton, Hutchinson, Cloud, and Kiowa Counties. (Bell). NEBRASKA - Armyworm remained light on small grains in southeast and east districts; averaged less than one per linear foot of row in Pawnee and Gage Counties, 1+ in Saunders County field. (Miller). IOWA - Larvae damaged field corn in Franklin, Clinton, Union, Winneshiek, Washington, Linn, and Iowa Counties. Larvae 0.5 to over 1 inch long. Damage increased. Increased reports of damage expected. Treatments applied. Some fields replanted. (Iowa Ins. Sur.). TENNESSEE - Acreage damaged by county: Bledsoe 100 of corn, Dyer 5,500 of wheat, Loudon 30 of corn, Monroe 175 of corn, Crockett 200 of small grains, Lawrence 90 of corn and small grain, and Morgan 15 of corn. (Austin et al.). OHIO - Larvae 1-2 per plant on 75 percent of corn in Knox County June 2. Currently up to 25 percent damage in Licking County. (Blair). MARYLAND - Larvae economic on no-till corn in Carroll and Frederick Counties. Moth catches continue to increase on Eastern Shore. (U. Md., Ent. Dept.).

ARMY CUTWORM (Euxoa auxiliaris) - MINNESOTA - Damaged corn and sunflowers in Stevens, Traverse, and Big Stone Counties. Some stands reduced by a third, damage confined to rows 50-80 feet from edge. Larvae mostly last and next to last instars. (Minn. Pest Rpt.).

ASTER LEAFHOPPER (Macrosteles fascifrons) - INDIANA - Adults observed on potatoes in Jasper County. (York). MINNESOTA - Incidence of aster yellows virus in aster leafhopper population is 3 percent, close to average of previous years. Leafhopper numbers have now leveled off. Averages ranged 30-60 per 100 sweeps. Present in all reporting districts. (Minn. Pest Rpt.). NORTH DAKOTA - Migrants ranged 40-200 per 100 sweeps of rye and winter wheat in Grant, Adams, and Bowman Counties. Migrants one per linear foot of row on 2-inch flax in Adams County. (Brandvik).

GREENBUG (Schizaphis graminum) - TEXAS - Light on sorghum in Martin, Reeves, and Glasscock Counties. (Neeb, McWhorter). OKLAHOMA - Heavy infestations on young sorghum in Grant and Garfield Counties wiped out by heavy rains. Scattered light infestations on seedling sorghum in Texas County. (Okla. Coop. Sur.). KANSAS - No heavy flights of winged adults since rains. Rains not heavy enough to reduce populations in some fields in western Dickinson and eastern Saline Counties; 23-47 per plant on seedling sorghum. Trace on sorghum in Wabaunsee, Pottawatomie, Neosho, Allen, Anderson, and Franklin Counties and in southwest area. (Bell). NEBRASKA - Winged forms and early instars light on sorghum in Gage, Clay, Merrick, Hall, York, and Lincoln Counties. (Peters et al.).

POTATO LEAFHOPPER (Empoasca fabae) - KENTUCKY - Heavy in Fayette and surrounding counties, adults 800-900 per 100 sweeps in several forage legume fields. No "hopperburn." (Barnett). INDIANA - Adults light on alfalfa in southern area. (Edwards). MICHIGAN - Common to abundant on alfalfa. (Ruppel et al.). OHIO - Adults 16 per 100 sweeps on regrowth alfalfa in Seneca County and adults 32 in Sandusky County. (Lewis). MARYLAND - Adults 1-3 per sweep of alfalfa in Queen Annes and Talbot Counties. (U. Md., Ent. Dept.).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - NEW MEXICO - Continued light, 10-15 per 25 sweeps, in Chaves and Eddy Counties. (N.M. Coop. Rpt.). NORTH DAKOTA - First of season on alfalfa in Sargent County. (Scholl).

TOBACCO BUDWORM (*Heliothis virescens*) - NORTH CAROLINA - Percent of tobacco fields at or above threshold level by county: Bladen 2, heaviest was 12; Lenoir 3.4, heaviest was 12.5. Controls adequate. (Harper et al.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - NORTH DAKOTA - Adult in light trap at Bismarck, Burleigh County, on June 10. (Brandvik). MINNESOTA - Pupation averaged 20 percent in southeast, south-central, and southwest districts. Corn reached 10-12 inches extended leaf height in some areas. (Minn. Pest Rpt.). MISSOURI - Percent leaf feeding on corn by area: Southwest 0-32, central 0-56, and north-central 0-28. (Munson). WISCONSIN - Moth flight continued to increase over southern area with egg laying well underway. (Wis. Ins. Sur.). ILLINOIS - Adult emergence 56 percent in Champaign County corn. Up to 70 percent whorl feeding in southern half of State; averaged 36 percent in Clinton County, some third-instar larvae noted. (Ill. Ins. Rpt.). INDIANA - Larvae, mostly first and second instars, on Tippecanoe County corn and southward through southwest district. Highest rate of infestation was 38 percent in few fields tall enough to support larvae. (Meyer, Sillings). MARYLAND - Whorl infestations increasing in all sections; 4-40 percent of most advanced corn in Queen Annes County. (U. Md., Ent. Dept.). DELAWARE - Heavy in early planted corn in Sussex County; few fourth instars. (Burbutis).

BLACK CUTWORM (*Agrotis ipsilon*) - NEBRASKA - Nearly full-grown larvae of *A. ipsilon*, *Crymodes devastator* (glassy cutworm), *Feltia subgothica* (dingy cutworm), and *Peridroma saucia* (variegated cutworm) damaged corn in Merrick, Hall, York, Gage, and Pawnee Counties. (Raun, Miller). IOWA - Black cutworm larvae damaged field corn in Cerro Gordo, Floyd, Union, Franklin, Guthrie, Buena Vista, Story, Warren, Calhoun, and Carroll Counties. Larvae 0.5-1.5 inches long. All or parts of 4-5 percent of fields replanted. Damage in central and northern counties. (Iowa Ins. Sur.). ILLINOIS - Widespread on corn in Clinton and St. Clair Counties. (Ill. Ins. Rpt.).

STALK BORER (*Papaipema nebris*) - ILLINOIS - Heavy on no-till corn in Edwards County. Light in tilled fields. Damage more widespread this year. (Ill. Ins. Rpt.).

CORN FLEA BEETLE (*Chaetocnema pulicaria*) - ILLINOIS - Stewarts disease light to moderate in several cornfields in Edwards County. Corn 20 inches tall with average of 3+ beetles per plant. (Ill. Ins. Rpt.).

CORN ROOTWORMS (*Diabrotica* spp.) - NEBRASKA - First and second-instar larvae ranged 1-10 per corn plant in 15 of 200 fields checked in Merrick, Hall, and York Counties. Adult leaf feeding seen in all fields checked in Gage and Pawnee Counties; damage light on about 5 percent of plants. (Raun, Miller). MISSOURI - *D. virgifera* (western corn rootworm) larvae 2-10 (average 4) per corn plant in southwest area. Fully grown larvae and pupae present. (Munson).

CORN BLOTCH LEAFMINER (Agromyza parvicornis) - MISSOURI - Larvae 3-6 per leaf on 4-8 leaves of all plants. (Munson). NORTH CAROLINA - First damage of season in Washington, Tyrrell, Hyde, and Sampson Counties. (Van Duyn, Falter).

SMALL GRAINS

HESSIAN FLY (Mayetiola destructor) - OKLAHOMA - Infestation (flaxseeds) in wheatfield in Stephens County. (Okla. Coop. Sur.). KANSAS - More heavy infestations on wheat in southeast district; light in Meade County. (Bell). OHIO - Unusually heavy in Miami, Darke, and Preble Counties, even in fields sown after fly-free date. (Blair).

AN APHID (Rhopalosiphum rufiabdominalis) - ARKANSAS - Found feeding on rice plants on levees in ricefields in Arkansas and Jefferson Counties. This is a new host record for State. Determined by E.P. Rouse. Feeding on stem and top roots at ground level. Heaviest infestations had 8-10 percent of plants lying flat on ground with weak and deformed root systems. Infested one field prior to flooding; aphids dead. (Boyer).

TURF, PASTURES, RANGELAND

AN APHID (Aphis ceanothi) - IDAHO - Many specimens collected on leaves of Ceanothus sanguineus (redstem ceanothus) at Lowell, Idaho County. Collected by M.M. Furniss, July 25, 1973. Determined by L.M. Russell. This is a new State record. (PPQ).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - OREGON - Prepupae, pupae, and teneral adults on June 10 in Wasco County alfalfa field located in low, hot area. All stages of larvae (nothing beyond) observed same day in Crook County field near Prineville. (Van Driesche). NEVADA - Larvae 0-29 (average 2) per sweep of seed alfalfa at Jungo, Humboldt County. Trace to 10 per sweep of seed alfalfa at Orovada, Humboldt County. (Lauderdale, Stitt). UTAH - Moderate increase of larvae on Cache County alfalfa slowed down due to storms and cooler weather June 7-10. (Davis). Adults 3 per 10 sweeps at Logan and Mendon, Cache County. (Roberts). NEW MEXICO - Up to 100 adults and 600 larvae per 25 sweeps continue in Corrales and Sandoval areas of Sandoval and Bernalillo Counties. Subsided in Pecos Valley following first cutting. (N.M. Coop. Rpt.). COLORADO - Larvae light, 400-500 per 10 sweeps, prior to Mesa County first cutting. Larval parasitism ranged 40-60 percent with Bathyplectes curculionis (an ichneumonid wasp) main parasite. (Bulla).

NEBRASKA - Alfalfa weevil appeared to be decreasing on alfalfa in southeast and east districts, particularly in cut fields. Adult feeding held back regrowth in some fields, but most fields beginning to green up. Some parasitism by B. curculionis in Pawnee and Nemaha Counties. (Miller). Light activity and damage by H. postica observed in Cherry County, larvae averaged 60 and adults 8 per 100 sweeps. (Campbell). SOUTH DAKOTA - Larvae ranged 0-700 per 100 sweeps in western area, lighter than in previous years. (Walstrom, Rezek). WISCONSIN - Averages per 100 sweeps ranged 1-172 in 22 counties. (Wis. Ins. Sur.). OHIO - Uncut alfalfa averaged 400 alfalfa weevil larvae per 100 sweeps in Huron County and 721 larvae per 100 sweeps in Wayne County by June 6. Unsprayed regrowth in Sandusky County averaged 192 larvae and 9 adults per 100 sweeps with 75 percent damage June 10. No damage in sprayed regrowth. (Lewis). VERMONT - Larvae averaged 20 per sweep at Pawlet, Rutland County. (Gotlieb et al.).

PEA LEAF WEEVIL (Sitona lineatus) - IDAHO - New peak in adult flight at Moscow and Potlatch, Latah County, June 6. Many new forage fields will require treatment. (Fisher).

APHIDS (Acyrthosiphon spp.) - CALIFORNIA - Acyrthosiphon sp., loti group, and A. pisum (pea aphid) adults on alfalfa at Sacramento, Sacramento County, Chowchilla, Madera County, and Lynwood, San Bernardino County. (Cal. Coop. Rpt.). NEVADA - A. pisum ranged 0-25, averaged 5, per sweep of seed alfalfa at Jungo, Humboldt County. Trace to 6 per sweep of seed alfalfa at Orovada, Humboldt County. This species (95 percent of sample) and Acyrthosiphon sp., loti group, averaged 12 per sweep in mixed field of red clover and sweetclover at Fallon, Churchill County. (Lauderdale, Stitt).

VARIEGATED CUTWORM (Peridroma saucia) - MISSOURI - Moderate to heavy numbers continued to prevent alfalfa regrowth in western half of State. Larvae 2-6 per square foot in west-central area. (Munson). NEBRASKA - Continued heavy on alfalfa throughout east and southeast districts with some damage to regrowth. (Keith et al.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Ranged 10-50 per 25 sweeps in Sandoval, Bernalillo, De Baca, Chaves, and Eddy Counties. Some fields near Clovis, Curry, and Roosevelt Counties show counts of 200 with adjoining range forbs having up to 1,000 per 25 sweeps. (N.M. Coop. Rpt.). NEVADA - Mostly first and second instars ranged 0-6 (averaged 1.4) per sweep of seed alfalfa at Jungo, Humboldt County. Ranged 0-7 (averaged 5) per sweep of seed alfalfa at Orovada. (Lauderdale, Stitt).

MEADOW SPITTLEBUG (Philaenus spumarius) - OHIO - First adults on alfalfa week of June 6. Average per sweep by county: First cutting - Scioto 12.6 and Jackson 3.5; second cutting - Jackson 0.3 and Pike 0.5. (Lewis).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Adult feeding on young soybeans tapering off on Eastern Shore although many adults still active and laying eggs. First and second instars in southern areas. (U. Md., Ent. Dept.). OHIO - Seriously defoliated soybeans in Ross County. (Blair). INDIANA - Maximum of 4 egg masses per 100 soybean plants in southeast district. (Meyer).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Generally very light in treated fields except in irrigated fields. Highs of 35-percent punctured squares in untreated fields. Overwintered adults in Hill and Ellis Counties relatively heavy in fields with pinhead squares. Adults very heavy in Blackland area. Punctured squares up to 80 percent while 20 percent contained small grubs. Increasing locally in coastal area. Leggett traps caught 94 adults in one trap in Knox County and 54 in another. Boll weevil counts medium in Schleicher County. (Buxkemper et al.).

ARKANSAS - Total of 801 (average 9.4) boll weevil adults caught in 8 pheromone traps in 8 counties. (Boyer). ALABAMA - Egg laying and feeding punctures in 16-48 percent of squares in 10 Macon and Tallapoosa County fields. Most cotton not fully fruiting. Live weevils 500+ per acre in Macon County field. (Lowery et al.). GEORGIA - Punctured 47 squares per 50 row feet in Crisp County field. (Nix, Boone). Live weevils averaged 3 per 100 row feet in Colquitt County field. (Durham, Boone). TENNESSEE - Terminal-bud feeding in southern tier of counties. Some early season controls applied. (Locke).

BOLLWORMS (Heliothis spp.) - TEXAS - H. zea (bollworm) activity increased very rapidly in many irrigated cotton fields across Rio Grande Valley. Highs of 40 larvae and 48 eggs per 100 terminals in fields previously treated for boll weevil. Damaged squares in almost every south-central area field. H. zea neared peak; no economic damage. H. virescens (tobacco budworm) dominance in 2 cotton fields in Rio Grande Valley, unusual at this time; controls ineffective. (Deer et al.). OKLAHOMA - H. zea light in few early planted fields in Jackson County. (Okla. Coop. Sur.). ALABAMA - Adults, eggs, and larvae of H. zea and H. virescens (dominant) heavier than in past 10-15 years for this period in Macon and Tallapoosa Counties. Eggs 25-100 and larvae 5-100 per 100 terminals. (Smith et al.). GEORGIA - Scattered eggs and light larval populations in southern area; beneficial species numerous, apparently suppressing Heliothis spp. populations. (Boone).

AN APHID (Smynthurodes betae) - NEW MEXICO - Killed 20 percent of stand of seedling cotton at Roswell, Chaves County. Collected by J. Chappell May 30, 1975. Determined by M. Stoetzel. This is a new State record. (N.M. Coop. Rpt.).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Began move into cotton from surrounding pastures in Hill and Ellis County area. Up to 50 per 100 terminals. Extremely light in most Ellis County fields. Light in weed hosts along ditchbanks and in pastures. Increased in all counties throughout Blacklands area. Infestations in Hill County ranged 15-25 percent and at 20 percent level in some fields in Bell and Coryell Counties. Very light in south-central area. Very little damage. Heavy in Glasscock County. (Turney et al.).

TOBACCO

BLACK CUTWORM (Agrotis ipsilon) - MARYLAND - Larvae heavily injured 8 acres of tobacco near Prince Frederick, Calvert County. (U. Md., Ent. Dept.).

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - MARYLAND - Adults injured 10 percent of tobacco in 5 acres of new transplants in St. Marys County. (U. Md., Ent. Dept.).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults ranged 5-17 per tobacco plant on 5 acres in Anne Anundel County. (U. Md., Ent. Dept.).

MISCELLANEOUS FIELD CROPS

CARROT BEETLE (*Bothynus gibbosus*) - TEXAS - Averages ranged 400-1,600 per night in light traps at Lockett. Light in 8 traps in Martin and Glasscock Counties. (Neeb). OKLAHOMA - Light trap catches by county: Tillman 7,129; Greer 2,660, and Jackson 29. (Neeb).

SUNFLOWER MOTH (*Homoeosoma electellum*) - TEXAS - Adults moderate to heavy in Trans-Pecos area fields where blooming initiated. Protective sprays applied to infested sunflowers. Larvae averaged 4 per head in Uvalde, Uvalde County. Some controls applied in Hill County. (Neeb et al.).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - KENTUCKY - Heavy populations required controls on 5 acres of potatoes in Warren County. (Barnett, Driskill). OHIO - Heavy in commercial planting of potatoes in Sandusky County by June 2. (Lewis). CONNECTICUT - Hatch begun. (Savos).

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - ALABAMA - Fully grown larvae and pupae collected from potato stalks in several commercial fields in Jackson County. First report ever of damage to potatoes in State. (Richardson).

A SPIDER MITE (*Tetranychus evansi*) - FLORIDA - Damaged commercial plantings of eggplant in Lake County; controls ineffective. (Sistrunk).

BEANS AND PEAS

MEXICAN BEAN BEETLE (*Epilachna varivestis*) - KENTUCKY - Heavy; damaged commercial beans in Franklin County. (Barnett).

PEA LEAF WEEVIL (*Sitona lineatus*) - IDAHO - Adult feeding damaged winter peas at Grangeville, Idaho County; flight counts still high. (Fisher).

COLE CROPS

IMPORTED CABBAGEWORM (*Pieris rapae*) - NEW JERSEY - Troublesome in several Atlantic and Cumberland County cabbage plantings. (Ins.-Dis. Newsltr.).

CABBAGE MAGGOT (*Hylemya brassicae*) - WISCONSIN - Larvae in many fields of cabbage transplants and seedbeds and cauliflower fields in Outagamie County. Many fields partly destroyed in northern east-central district. (Wis. Ins. Sur.).

CUCURBITS

SQUASH VINE BORER (*Melittia cucurbitae*) - SOUTH CAROLINA - Adult females observed in Pickens County garden June 9, 1975. Collected and determined by V.H. McCaskill. This is a new county record. (McCaskill).

GENERAL VEGETABLES

SHALLOT APHID (*Myzus ascalonicus*) - VIRGINIA - Many aphids collected on chives at Christiansburg, Montgomery County. Collected by W.A. Allen December 8, 1974. Determined by L.M. Russell. This is a new State record. (PPQ).

BROWN WHEAT MITE (*Petrobia latens*) - NEVADA - Heavy on another 170 acres of garlic at Smith Valley, Lyon County. (Nev. Coop. Rpt.).

HAWAII INSECT REPORT

General Vegetables - TOMATO PINWORM (*Keiferia lycopersicella*) light in 5.5 acres of tomato at Pulehu, Maui, and in 1.5 acres at Waiakoa, Maui. Damaged one percent of harvested fruit. LEAFMINER FLIES (*Liriomyza* spp.) light to moderate in 5.5 acres of tomato at Pulehu; light to heavy in 1.5 acres of tomatoes at Waiakoa. DIAMONDBACK MOTH (*Plutella xylostella*) larvae and pupae light in acre of head cabbage at Waiakoa. Moderate to heavy in 0.5 acre of mustard cabbage at Pearl City, Oahu. All stages present. Control partially achieved but with difficulty. (Mau et al.).

Fruits and Ornamentals - BANANA SKIPPER (*Erionota thrax*) light throughout Kauai, Oahu, and Maui. On Kauai, infestations near nil at Wailua, Hanapepe, Kaumakani, Kapaa, and Hanalei; evidence of egg and larval parasitism at all locations. On Maui, infestations light at Wailuku, Waikapu, and Napili. No infestations found to date on eastern Maui. Parasitism remains low. On Oahu, no indication of *E. thrax* population resurgence; in windward area of Oahu parasites remain active in light skipper populations. (Murai et al.).

Beneficial Insects - BRACONID WASPS (*Opius* spp.) on long bean at 10 locations on Kauai show good control, 77-100 percent, of *Ophiomyia phaseoli* (bean fly). (Sugawa, et al.).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - ARIZONA - Larvae in developing apple and pear fruit at Safford, Graham County. (Ariz. Coop. Sur.). NEW MEXICO - Average catches per pheromone trap as of June 6 ranged 7-131 in 11 counties. (N.M. Coop. Rpt.). COLORADO - First-brood moth emergence in pheromone traps in Western Slope orchards. (Bulla). IDAHO - Catch of 21 adults June 5-11 at Moscow, Latah County. (Portman). MICHIGAN - Entry in apples June 9 near Watervliet, Berrien County. (Olsen). OHIO - First damage to apples in Fairfield County. Affected less than 1 percent of fruits. (Sheppard).

FRUITTREE LEAFROLLER (Archips argyrospilus) - IDAHO - Severely defoliated terminals of some fruit trees. Continued problem throughout Moscow area, Latah County. (Portman).

CHERRY FRUIT FLY (Rhagoletis indifferens) - OREGON - First adults trapped at Gaston, Washington County, June 10. (Collins). IDAHO - First adults of season June 2 in Gem, Canyon, and Washington Counties. (Moore). MICHIGAN - First adults on June 6 in Berrien County. Emergence in cage increased from 3 on June 6 to 18 adults on June 12. (Hanna).

BLACK CHEERY FRUIT FLY (Rhagoletis fausta) - MICHIGAN - Emerged June 6 at Bridgman, Berrien County, June 10 at New Era, Oceana County, and June 12 at Grand Rapids, Kent County. (Olsen). NEW YORK - First adults of season June 6 at Geneva, Ontario County. (Lienk).

PECAN NUT CASEBEARER (Acrobasis nuxivorella) - NEW MEXICO - Adults emerged May 25 through June 5 at Carlsbad, Eddy County. First-generation larva observed June 5. (N.M. Coop. Rpt.). TEXAS - Controls applied in Archer, Cottle, King, Foard, Hardeman, Wichita, and Wilbarger Counties; second treatment in most counties. Light in Ward, Pecos, Upton, and Glasscock Counties. Damaged 3 percent of nutlets on unsprayed trees but less than one percent on sprayed trees in Wharton County. Light to moderate in Concho, Gillespie, Sutton, Taylor, and Runnels Counties. (Boring et al.). OKLAHOMA - Eggs averaged one percent and entries ranged 2-10 percent on untreated pecans in Washington County. Entries averaged 1.6 percent in Kay County. (Okla. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Most damaging insect on pecans in Uvalde, Real, and Dimmit Counties. Several trees have 10+ webs; many untreated trees harboring 1-5 webs. Will surpass 1973 in amount of activity. Few small webs began to appear on pecans in Bell, McLennan, and Falls Counties. On pecans in Gonzales and Jackson Counties. Light in Tom Green and Nolan Counties. (Stewart et al.).

SMALL FRUITS

GRAPE FLEA BEETLE (Altica chalybea) - OHIO - Severely defoliated unsprayed grapes in Franklin County. Averaged 2 larvae per leaf; leaves half consumed. (Lewis).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - OHIO - Severely damaged strawberry leaves. Averaged 38 adults and 302 eggs per 10-leaflet sample, high of 122 and 604 respectively. (Lewis).

FOREST AND SHADE TREES

A MARGARODID SCALE (*Matsucoccus acalyptus*) - NEVADA - Heavy on *Pinus monophylla* (singleleaf pinyon) in Pine Nut Mountains southeast of Gardnerville, Douglas County. (Lauderdale).

BLACK PINELEAF SCALE (*Nuculaspis californica*) - NEVADA - Moderate to heavy on 100+ acres of *Pinus jeffreyi* (Jeffrey pine) and *P. ponderosa* (ponderosa pine) at Genoa, Douglas County. Heavily damaged about 90 percent of trees on 50 of these acres; needles brownish with up to 66 scales per inch of needle. Eggs trace. (Barclay, Bechtel).

GEOMETRID MOTHS - NORTH DAKOTA - *Paleacrita vernata* (spring cankerworm) and *Alsophila pometaria* (fall cankerworm) defoliation localized and heavy in Pembina County. Larvae mostly 0.75-1.00 inch. Light in shelterbelts in Grand Forks County. Larvae 0.50-0.75 grown. (Frye, Scholl). MINNESOTA - *P. vernata* and *A. pometaria* feeding has just about run its course and hundreds of trees bare at Minneapolis and St. Paul. Braconid puparia abundant. (Minn. Pest Rpt.). PENNSYLVANIA - *A. pometaria* defoliated over 200,000 acres of northern hardwoods by June 3. Population heavier than in 1974. (Grecco). Defoliation light to heavy on over 5,000 acres of mostly oaks at Cornwall, Lebanon County, by June 6. (Troutman).

LINDEN LOOPER (*Erannis tiliaria*) - PENNSYLVANIA - Defoliation ranged light to moderate in over 400,000 acres of northern hardwood trees in Potter and McKean Counties by June 3. Population heavier than in 1974. (Grecco). Defoliation moderate to heavy on hardwoods along U.S. Highway 219 from out of State into McKean County by June 8. (Cameron).

ELM LEAF BEETLE (*Pyrrhalta luteola*) - TEXAS - Began to show up on most elms in Panhandle. Larvae heavy; damaged Chinese elms in Wilbarger County. Stripped elms in northern area. Light to moderate in Irion and Taylor County. (Clymer). OKLAHOMA - First-generation pupation underway in Mayes and Muskogee Counties. (Okla. Coop. Sur.). MISSOURI - Defoliated many southwest area elms. Pupation underway. (Munson). IDAHO - First damage of season on Chinese elm in Coeur d'Alene, Kootenai County, by June 11. (Van Slyke).

A GRASSHOPPER (*Dendrotettix quercus*) - OKLAHOMA - Moderate numbers of adults and large nymphs found feeding on oaks (mostly post oak) near junction of State Highways 33 and 48 in Creek County on June 12. Collected and determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

MAN AND ANIMALS

SCREWWORM (*Cochliomyia hominivorax*) - Total of 166 cases reported from continental U.S. during period June 1-7 as follows: Texas 162, Arizona 4. Total of 171 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 130,764,500 as follows: Texas 118,839,500; New Mexico 2,592,000; Arizona 9,333,000. Total of 44,939,500 sterile flies released in Mexico. (Vet. Serv.).

HORN FLY (Haematobia irritans) - TEXAS - Buildup rapid on cattle in Panhandle. Increasing in northern area. Heavy on cattle in Real and Archer Counties. Continued to increase on cattle across Trans-Pecos area. Increased in Jackson and Calhoun Counties. Moderate to heavy throughout San Angelo area of Tom Green County. (Clymer et al.). OKLAHOMA - Ranged 800-1,000 per head on cattle in Payne County. Moderate to heavy in Comanche, Tulsa, and Nowata Counties. (Okla. Coop. Sur.). NEBRASKA - Averaged 700 per untreated range animal in Lincoln, Keith, and McPherson Counties. (Campbell). KENTUCKY - Adults per head in Caldwell County averaged 30.4 on Hereford cows, 19.5 on Hereford calves, 26.9 on Angus cows, 18.8 on Angus calves, and 38.3 on Angus steers. (Barnett, Christensen).

CATTLE GRUBS (Hypoderma spp.) - NORTH DAKOTA - Adults running cattle in Sioux and Adams Counties. (Brandvik). KENTUCKY - H. lineatum (common cattle grub) larvae averaged 1.32 per animal June 12 and 1.08 per animal June 5 on 25 Holstein dairy cows in Fayette County. (Barnett).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 4 per head on dairy cattle checked in Payne County. (Okla. Coop. Sur.). NEBRASKA - Averaged 12 per animal in untreated feedlots in Lincoln, Keith, and McPherson Counties. (Campbell).

FACE FLY (Musca autumnalis) - TENNESSEE - Heavy in all areas. Controls generally unsatisfactory. (Bruer). NORTH CAROLINA - Piedmont area populations heavier than last year when counts ranged 25-40 per head. Peak numbers expected mid-July to first of August this season. (Falter, Hunt). KENTUCKY - Average counts per head by county: Scott 9.5, Greenup 11.38, Elliott 25.61, and Caldwell 22.3-36.9. (Barnett, Christensen). NEBRASKA - Averaged 5 per untreated animal in Lincoln, Keith, and McPherson Counties. (Campbell).

MOSQUITOES - TEXAS - Heavy in urban areas of Ector and Midland Counties. Heavy in Knox, Wilbarger, and Wichita Counties. Moderate to heavy in Nolan, McCulloch, Tom Green, Irion, Gillespie, and Runnels Counties. (Neeb et al.). OKLAHOMA - Mostly Psorophora spp. heavy in Comanche, Payne, and Washington Counties. (Okla. Coop. Sur.). MINNESOTA - Adults declined at Minnesota and St. Paul due to cool nights. Major species in daytime bite collections Aedes cinereus, A. stimulans, and A. vexans. In nighttime bite collections A. cinereus, A. vexans, and A. sticticus dominant. First Coquillettidia perturbans emerged. (Minn. Pest Rpt.).

LONE STAR TICK (Amblyomma americanum) - TEXAS - Heavy on cattle in Real County. Moderate to heavy on cattle in Blanco and Gillespie Counties. Light on sheep and goats in Concho and Irion Counties. (Stewart, McWhorter).

AMERICAN DOG TICK (Dermacentor variabilis) - NORTH CAROLINA - Total of 28 cases of Rocky Mountain spotted fever through May compared to 22 for 1974; no deaths reported (N.C. Dept. Human Resources).

BENEFICIAL INSECTS

TACHINA FLIES - PENNSYLVANIA - Released against Porthetria dispar (gypsy moth) in eastern and central areas: Palexorista sp. 16,954, Palexorista inconspicua 2,000, and Exorista larvarum 1,000 for total of 545,453 parasitoids by June 6. (Ticehurst).

A EULOPHID WASP (Tetrastichus julis) - MICHIGAN - Parasitized 96 percent of fourth-instar Oulema melanopus (cereal leaf beetle) larvae in Genesee County wheatfields by June 9. (Wellso). T. julis recovered from O. melanopus larvae as follows. INDIANA - Smithfield Township, DeKalb County, by H. Bollinger May 30. OHIO - Field insectary in Fairfield County by J. Wheeler May 29. Berlin Township, Knox County, by F. Prentice May 29. Thorn Township, Perry County, by K. Kruse and P. Shipman May 23. NEW YORK - East Bloomfield Township by Forsyth June 2 and in field insectary in Richmond Township by T. Crowe June 10 in Ontario County. (PPQ).

A MYMARID WASP (Anaphes flavipes) - This parasitoid recovered from Oulema melanopus (cereal leaf beetle) eggs as follows. WEST VIRGINIA - Sweet Springs Magisterial District, Monroe County, by J. Falk June 13. MARYLAND - Near Accident, Garrett County, by R. Dysart and J. Dillier June 10. New County record. PENNSYLVANIA - London Britain Township, Chester County, by R. Dysart June 6; new county record. Keating Township, McKean County, by J. Murningham and R. Shiner June 13. NEW YORK - Richmond Township, Ontario County, by T. Crowe June 9. Owego Township, Tioga County, by P. Gerber June 10; new county record. MICHIGAN - Banks, Central Lake, and Echo Lake Townships, Antrim County, by H. Haney June 11. Raisinville and Summerfield Townships, Monroe County, by D. Loree June 9. Both counties are new records. (PPQ).

ICHNEUMONID WASPS (Bathyplectes spp.) - NEW MEXICO - Three lots of B. anurus released in Valencia County and 3 lots of B. curculionis released in Quay County week of June 1-8. (N.M. Coop. Rpt.). OHIO - B. anurus recovered at Clinton County release site May 20. Only third county recovered despite several releases at various locations. B. curculionis percent parasitism of Hypera postica (alfalfa weevil) by county June 6: Warren 13, Highland 25, Adam 36, Brown 51, and Clinton 38. (Lewis). WISCONSIN - B. curculionis percent parasitism of alfalfa weevil by county: Grant 50, Lafayette 29, Green 9.9, Crawford 45, Iowa 23, Dane 15, Jefferson 52, Sauk 43, and Door 29; State average 23. Degree of parasitism decreasing each year. Attempt to determine cause resulted in discovery of pteromalid hyperparasite Sceptrothelys grandiclava, previously reported only from Colorado and Nebraska. (Wis. Ins. Sur.).

A WEEVIL (Rhinocyllus conicus) - NORTH DAKOTA - Adults released against musk thistle (Carduus nutans) on 2 sites in Langdon, Cavalier County, and one site at Edmore, Ramsey County. (Frye, Scholl).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BETTLE (Oulema melanopus) - ILLINOIS - Adult collected on wheat at Grantsburg, Johnson County, May 2, 1975, by R.W. Elmore. VIRGINIA - Collected on wheat by V. Hoyos as follows: Immatures near Woodford, Caroline County, May 20, 1975, and east side of U.S. Highway 301 half mile south of intersection with State Highway 3 in King George County, May 21, 1975; adults near Chantilly, Prince William County, May 12, 1975, and at Woolsey, Prince William County, May 13, 1975. MARYLAND - Immatures collected on wheat at Prince Frederick, Calvert County, June 5, 1975, by W. Denny; on oats at Cecilton, Cecil County, June 9, 1975, by K.A. Conner; at La Plata, Charles County, June 5, 1975, by W. Denny; at Millington, Queen Annes County, June 6, 1975, by W.A. Merriam. NEW YORK - Adults collected on oats as follows: At Cayuga, Cayuga County, May 30, 1975, by T.O. Crowe; at Preble, Cortland County, May 22, 1975, by P.E. Gerber; at Newark Valley, Tioga County, May 16, 1975, by P.E. Gerber and R. LeMaire. All determinations by R.E. White. These are all new county records. (PPQ). Heavy in Newfield Township, Tompkins County, New York. (Dell). Field in Newfield with 0.9 egg and 1.6 larvae per stem. Area represents most eastern point in State where controls warranted. (Willson). PENNSYLVANIA - Survey of oats in 28 counties June 3-7: Adults 1-63 per 100 sweeps; eggs 1-270 and larvae 1-134 per 10-foot row; damage trace to 40 percent. (Sporer).

GRASSHOPPERS - ARIZONA - Infestations developing on San Carlos, Fort Apache, and Navajo Indian Reservations. (Ariz. Coop. Sur.). NEW MEXICO - Various species generally 4 per square yard in Union County with few counts up to 8. Counts in Roosevelt County 0-8 per square yard. *Psoloessa* represents about 75 percent of populations. (N.M. Coop. Rpt.). NEBRASKA - *Melanoplus differentialis*, *M. bivittatus*, and *M. sanguinipes* nymphs ranged 140-1,300 per 100 sweeps in uncut alfalfa in Pawnee and Gage Counties. (Miller). NORTH DAKOTA - First through fourth instars ranged from less than 1 to 6 (averaged 3) per square yard of alfalfa in Sargent County. Marginal counts from less than 1 to 4 (averaged 2) per square yard. *M. sanguinipes* and *M. bivittatus* dominant. (Carey, Scholl). Up to 36 (averaged 4) per square yard in Morton, Grant, Hettinger, Adams, and Bowman Counties. Nymphs first to fourth instar mostly first instar. Main hatch occurred. *M. bivittatus*, *M. sanguinipes*, and *M. packardii* dominant. (Brandvik). MINNESOTA - *M. bivittatus* eggs almost all segmented in Kittson County and in northwest district. Significant hatch of slantfaced grasshoppers there has reached second instar. Second instars in west-central and southwest districts, mainly *M. bivittatus* with few *M. differentialis*. Most infestations in roadside ditches but Chippewa County soybean field had infestations in first 10-20 rows averaging 1-2 nymphs per yard of row. (Minn. Pest Rpt.).

JAPANESE BEETLE (*Popillia japonica*) - PENNSYLVANIA - First adults of season June 9 at Middletown, Dauphin County. (Simons).

CITRUS BLACKFLY
Aleurocanthus woglumi Ashby

A Selected Bibliography
1913-1975

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Woglum, R.S., and Smith, H.S. 1947. The citrus blackfly. Calif. Citrog. 32(9):412-415.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(25):515-521, 1975

DETECTION

New State Records - APHIDS - *Aphis ceanothi* - IDAHO - Idaho County. (p. 505). *Smynthurodes betae* - NEW MEXICO - Chaves County. (p. 507). SHALLOT APHID (*Myzus ascalonicus*) - VIRGINIA - Montgomery County. (p. 509).

New County Records

WHARF BORER (*Nacerdes melanura*) - TENNESSEE - Adults collected from blacklight trap June 10, 1975, at marine terminal on Cumberland River, Nashville, Davidson County. Collected and determined by C.D. Gordon. (Gordon).

CEREAL LEAF BEETLE (*Oulema melanopus*) ILLINOIS - Johnson. VIRGINIA - Caroline, King George, Fairfax, Prince William. MARYLAND - Calvert, Cecil, Charles, Queen Annes. NEW YORK - Cayuga, Cortland, Tioga (pp. 513-514). A GRASSHOPPER (*Dendrotettix quercus*) OKLAHOMA - Creek (p. 511). A MYMARID WASP (*Anaphes flavipes*) MARYLAND - Garrett. PENNSYLVANIA - Chester. NEW YORK - Tioga. MICHIGAN - Antrim, Monroe (p. 513). SQUASH VINE BORER (*Melittia cucurbitae*) SOUTH CAROLINA - Pickens (p. 508).

CORRECTIONS

CEIR 25(23):470 - PARASITOID WASPS - MICHIGAN - Delete *This is first time recovered in this county where previously released.* (DeWitt).

CEIR 25(23):470, 472 - A MYMARID WASP (Anaphes flavipes) PENNSYLVANIA - Columbus County should be Columb*ia* County. (DeWitt).

CEIR 25(20):391 - HAWAII INSECT REPORT, General Vegetables - All TOBACCO THRIPS (F. fusca) should be F. *invasor*. (Mau).

LIGHT TRAP COLLECTIONS

BL = blacklight
I = incandescent
MV = mercury vapor
O = other

	Temperature °F.	Precipitation (inches)	Type of trap	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA (County)																								
Mesa 6/2-8			BL	185		16				12								83		240		17	18	
FLORIDA																								
Gainesville 6/6-12			BL		2			12		1										2	7	4		
INDIANA (Districts)																								
North West 6/5-11			BL	6													1	10	342					
South West 6/5-11			3BL	173	21					1					8		21	10	418					
KANSAS																								
Great Bend 6/2-11			BL			3200				114								21	14					
Manhattan 6/12			BL	3		1												20				1		
KENTUCKY																								
Fayette 6/6-13			BL	40													1		208					
MICHIGAN (Counties)																								
Lenawee 6/3-9			BL	19													35	21	281					
Monroe 6/2-10			BL	23													14	24	121					
MINNESOTA																								
Fergus Falls 6/5-11			BL																38					
Worthington 6/5-11			BL																21					
MISSISSIPPI																								
Stoneville 6/5-12	65-91	2.60	2BL	63	5				82	186					1			740	589			121		
NEBRASKA																								
North Platte 6/7-13			BL	4		8	4												68					
NEW MEXICO (County)																								
Dona Ana 6/2-13			3BL	3		57				41						17			22	17				
NORTH DAKOTA																								
Bismarck 6/6, 10			BL											8					6					
Bottineau 6/6-9			BL			1													3					
OHIO																								
Wooster 6/7-13			3BL	103			14									72		52	2766			1		

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap BL = blacklight I = incandescent MV = mercury vapor O = other	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
OREGON (County)																								
Marion 6/9-13			2BL	1														1						
PENNSYLVANIA (Districts)																								
Central 5/29-6/10			BL	12							3								167					
South East 5/29-6/10			BL	10	1						3								61					
SOUTH DAKOTA																								
Brookings 6/5, 8-11			BL														7	12	70			1		
TENNESSEE (Counties)																								
Henry 6/5-11			BL	21												5		32	679		12	12		
Weakley 6/5-11			BL	32						2						3	2	46	819		21	7		
WISCONSIN																								
Lancaster 6/5-11			BL														18	9	199					
Mazomanie 6/5-11			BL														11		7					

WEATHER OF THE WEEK ENDING JUNE 15

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: It was another week of violent weather. From central Colorado southeast through Texas and from the central Plains to the Atlantic coast, thunderstorms with accompanying tornadoes, hail or high winds, battered most of the eastern United States. Typical of mid-June, cool air from the North moved southward in successive surges and met the warm moist tropical air from the South to set off the explosive nature of the weather. West of the Continental Divide, the average temperature was warmer than normal. The valley of California was more than 10 degrees above normal. East of the Divide, the cool air dominated in all but the extreme Southeast and the eastern half of the Great Lakes area.

PRECIPITATION: Showers and thunderstorms continued through Sunday night and into Monday through the Plains States, the lower Mississippi Valley, and the Gulf Coast region. Later, severe weather moved eastward through the Plains to cover the entire Mississippi Valley. Heavy rain caused flooding in east and southeast Texas. Seventeen inches of rain fell at Sourlake in southeast Texas from early morning until midnight. Some evacuation was necessary in the bayou areas. Tornadoes were reported in central Texas and near Houston. The northern and central Rockies reported showers of snow and rain. An unseasonable cool air mass had settled over the western mountains by Tuesday bringing cold rain and snow to much of the area. Snow fell most of the day in Colorado Springs and set a record for so late in the season. Elsewhere, thunderstorm activity was widespread along the Texas coast, the remainder of the Gulf and South Atlantic States and into the Ohio Valley and southern Plains. The heaviest rain was in northern Louisiana where flooding was a problem. Wednesday brought some slackening of the heavy rain although rain and thunderstorms were more widespread. Activity was occurring from the northern half of the Plains across the Great Lakes to the Ohio Valley and eastward into the Gulf and South Atlantic States. Tornadoes were reported in South Carolina, Florida, Indiana, and Wisconsin. Most of the western half of the Nation had fair skies. Severe weather had abated by Thursday. Showers and thunderstorms were not as violent and were spread from the Louisiana Delta east through Florida then north through the Atlantic Coast States to New England and through the entire Great Lakes area. Funnel clouds were sighted in Illinois. Elsewhere, showers dotted central California and the middle Rockies and were scattered through the Plain States. Friday began rather mildly with rain and thundershowers triggered by a cold front pushing through the Atlantic Coast States from New England to the mid-Atlantic coast. Scattered activity was in Missouri and in the Dakotas and Minnesota. Later, severe thunderstorms and tornadoes were reported over a large area. The most intense activity was from northwest Texas through Oklahoma and northwest Arkansas and in the North from northern Illinois into southeast Wisconsin. More very strong storms were reported in southern Alabama and western Florida. Tornadoes were reported in Minnestoa, Wisconsin, Iowa, Illinois, Indiana, and Oklahoma. Heavy damage was reported at Stillwater, Oklahoma. Saturday was a repeat of the previous day except that the hardest hit area was northern

Illinois and Indiana. The long line of thunderstorms stretched from Lake Michigan through Illinois and Missouri to eastern Oklahoma and was moving eastward. Tornadoes, hail, and wind wrought havoc as the line moved into Michigan, Indiana, and Arkansas. Northeast Texas and northwest Louisiana shared the storms. Behind the line of storms, less severe activity occurred in Iowa and the Dakotas. On Sunday, the line of storms and moved through Michigan to the Appalachians and to Alabama and through Louisiana. Thunderstorms also occurred in the Southeast and all along the gulf coast. Showers again fell in the northern Plains with most activity reported in eastern Nebraska and western Iowa.

TEMPERATURE: On Monday, cold air was slipping into New England where Houlton, Maine, reported a low of 32 degrees. The Northwest was also cool at the beginning of the week but warmed later. On Tuesday, the coldest temperatures were in the 30's in Maine and the central Rockies. Records were set at Concord, New Hampshire, with 32 degrees and Colorado Springs with 33 degrees. Records were set again on Thursday with 29 degrees at Alamosa, Colorado, and 40 degrees at North Platte, Nebraska. Later in the day, temperatures exceeded 100 degrees in the desert Southwest. By Saturday, the Pacific Coast States, were warm and dry. It was also warm in the middle west where the 70's prevailed in Illinois until after midnight. The Southwest continued hot. The last day of the week, Sunday, produced high temperatures in the 90's, along the east coast into Maryland and went over the 100 mark from southwest Texas into the desert Southwest. Clear skies allowed the temperature to climb in all of the West.

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